Cross correlation of pain hypersensitivity and trunk muscles imaging parameters in subacute low back pain

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Introduction.– The study was aimed to estimate prevalence of pain hypersensitivity and possible correlation among pain hypersensitivity and trunk muscle imaging findings in patients reporting subacute LBP.

Methods.– Cross sectional study was performed on 34 randomly selected subacute LBP patients and 16 healthy subjects. The parameters assessed include pressure pain detection threshold (PPDT), pressure pain tolerance threshold (PPTT) at the site of maximal pain and of more distant nonpainful point at the back, and the ipsilateral great toe, amplitude on surface EMG and US thickness of multifidus (M) and transversus abdominals (TrA). Pain hypersensitivity was assessed using a pressure algometer (Somedic AB, Horby, Sweden). EMG signals were recorded with wireless LUMBIA system (BTS Bioengineering, Italy) on Transversus regia (TrA) and on Multifidus (M) muscles with surface EMG F-TC1 electrodes (Skintact, Austria).

Results.– Positive correlation between PPDT on most painful site and US thickness of ipsilateral TrA ($\rho = 0.698$; $P = 0.021$) and negative correlation between PPTT on great toe with ipsilateral M ($\rho = -0.638$; $P = 0.037$) were found.

Discussion.– These results provide evidence of significant association between pain hypersensitivity parameters and US thickness of trunk muscles in subacute LBP and implies further development of treatment strategy.

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Functional outcome following rehabilitation in patients with neuropathic pain and sensory-motor neurological hand dysfunction after upper extremity trauma

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Introduction.– Pain and disability due to traumatic peripheral nerve injury in the upper extremity are a major problem for both individual and society. Restoring of hand function, pain relief, improvement of functioning and maximizing HRQoL are the main goals in upper limb posttraumatic rehabilitation. Our study aimed to analyze rehabilitation functional outcomes in patients with hand dysfunction and neuropathic pain due to peripheral nerve impairment after upper extremity trauma.

Material and methods.– We included 50 patients with posttraumatic hand dysfunction and pain that followed specific rehabilitation programme in our department. We excluded brachial plexus palsy cases and amputees. We organized a database with information regarding pain, disability and HRQoL. For data collection, we were using DASH questionnaire, a standardized patient-oriented outcome measure of upper limb functioning and disability that provides an image of the physical impairment's impact on the individual's participation in daily living activities, quality of life and psychosocial functioning. We also used a specific questionnaire to evaluate patients' therapeutic compliance.

Results.– Data analysis showed an improvement in functioning and quality of life. Patients with higher therapeutic compliance experienced more quickly pain relief.

Discussion.– In patients with mixed nociceptive and chronic pain functional recovery process was more difficult.

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